

SUBSTITUTE SPECIFICATION--CLEAN VERSION

14219-118US1/P2003,0658USN 03/26/2008

PCT/DE2004/002168

TECHNICAL FIELD

Piezoelectric Ceramic Material, Multilayer Component
and Method for Producing Said Ceramic Material

5 A piezoelectric ceramic material and a method for
producing the piezoelectric ceramic material are disclosed.
The piezoelectric ceramic material has having the general
composition ABO_3 , which essentially contains lead zirconate
titanate and has a perovskite lattice structure, in which A
10 stands for A positions and B stands for B positions in the
crystal lattice.

 This type of ceramic material is especially well
suited for use in multilayer components comprising a stack
15 of multiple ceramic layers and electrode layers arranged
alternatingly, one on top of another.

 Piezoceramic components of this type can be used, for
example, as actuators in piezo stacks, in which a low-
20 inertia mechanical deflection of comparatively high force
is achieved by means of voltage activation; they may also
allow the generation of high electric voltages or may be
used in relevant devices in the detection of mechanical
oscillations or the generation of acoustic vibrations.

25

BACKGROUND

 Prior technical solutions have been based
predominantly on ceramic masses of the perovskite
structural type having the general formula ABO_3 , wherein the
30 piezoelectric properties are brought to bear in the
ferroelectric state. Lead zirconate titanate ceramics that